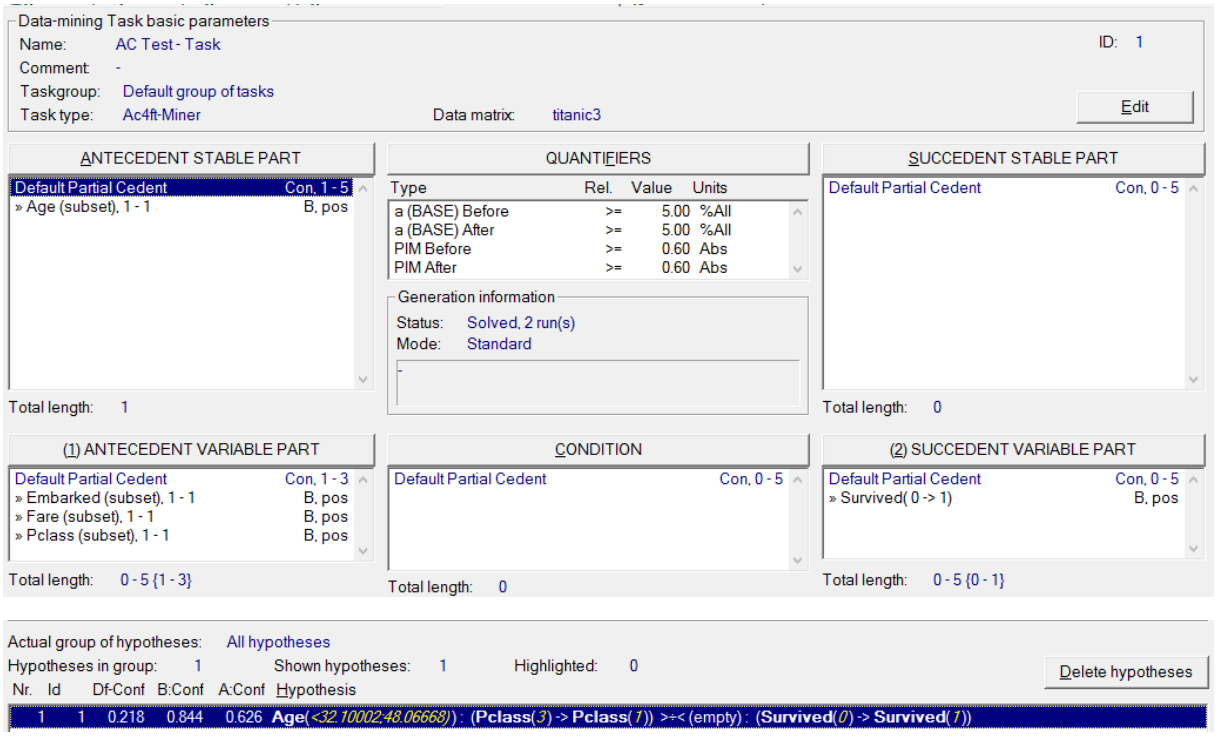
Conf: 60%, Supp: 5%



LispMiner returns 1 result.

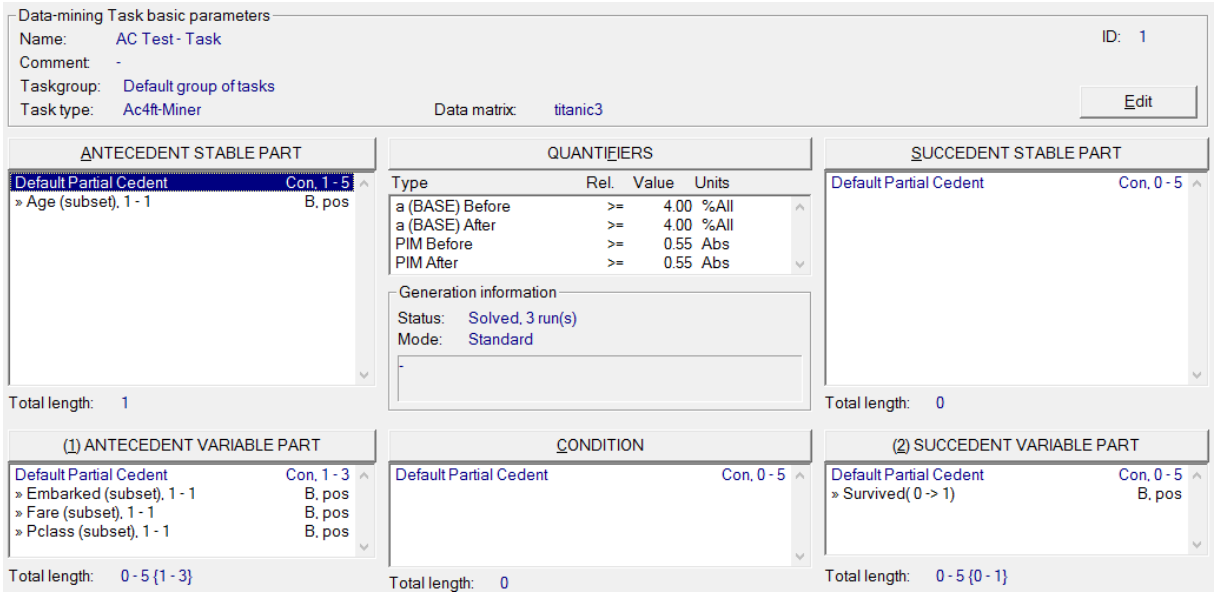
```
desired_state = DesiredState(desired_classes = ["1.0"])
decisions = Decisions()
decisions.read_csv("data/titanic.csv", sep="\t" ,lineterminator='\r')
antecedents = ["Age", "Embarked", "Fare", "Pclass", "Sex"]
consequent = "Survived"
decisions.prepare_data_fim(antecedents, consequent)
decisions.fit_fim_apriori(conf=60, support=5)
```

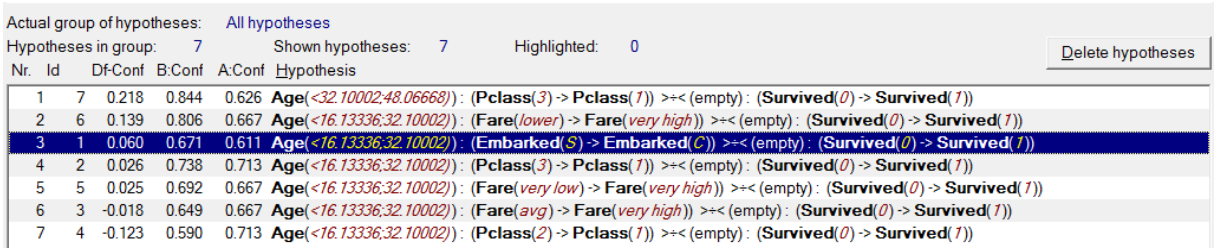
The Python app returns 3 results, (2 of them contain nan).

```
for arule in arules.action_rules_list:
    print(arule)
```

```
([('Age', '<16.13336;32.10002)')], [('Embarked', 'nan', 'S')], [('Survived', '0.0', '1.0')])
([('Age', '<32.10002;48.06668)')], [('Pclass', 'nan', '1.0')], [('Survived', '0.0', '1.0')])
([('Age', '<32.10002;48.06668)')], [('Pclass', '3.0', '1.0')], [('Survived', '0.0', '1.0')])
```

Conf: 55%, Supp: 4%





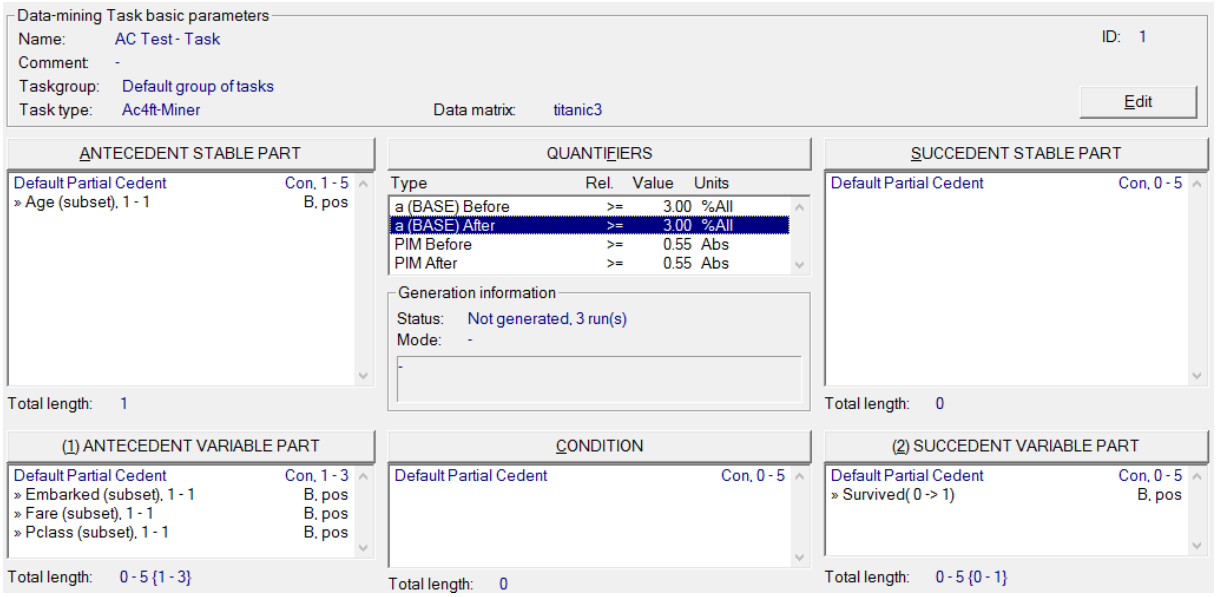
LispMiner returns 7 results.

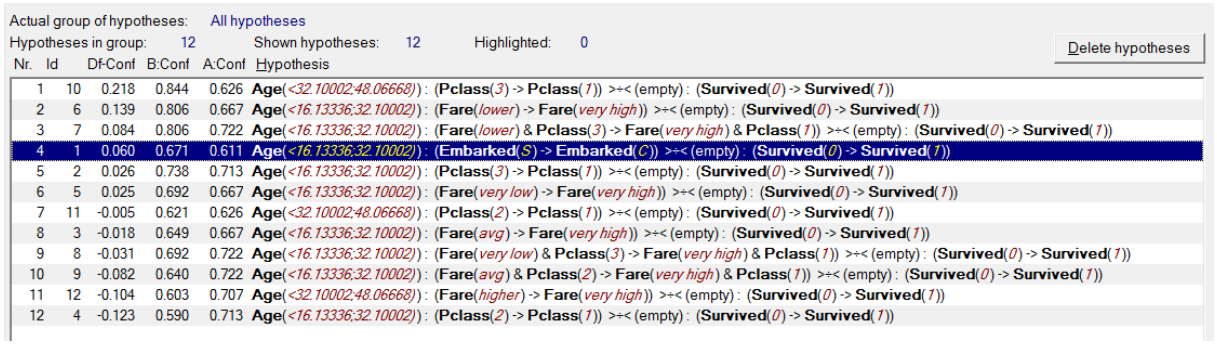
```
desired_state = DesiredState(desired_classes = ["1.0"])
decisions = Decisions()
decisions.read_csv("data/titanic.csv", sep="\t" ,lineterminator='\r')
antecedents = ["Age", "Embarked", "Fare", "Pclass", "Sex"]
consequent = "Survived"
decisions.prepare_data_fim(antecedents, consequent)
decisions.fit_fim_apriori(conf=55, support=4)
```

```
([('Age', '<16.13336;32.10002)')], [('Pclass', 'nan', '1.0')], [('Survived', '0.0', '1.0')])
([('Age', '<16.13336;32.10002)')], [('Embarked', 'S', 'C')], [('Survived', '0.0', '1.0')])
([('Age', '<16.13336;32.10002)')], [('Fare', 'nan', 'very high')], [('Survived', '0.0', '1.0')])
([('Age', '<16.13336;32.10002)')], [('Embarked', 'nan', 'S')], [('Survived', '0.0', '1.0')])
([('Age', '<16.13336;32.10002)')], [('Embarked', 'nan', 'C')], [('Survived', '0.0', '1.0')])
([('Age', '<16.13336;32.10002)')], [('Pclass', '3.0', '1.0')], [('Survived', '0.0', '1.0')])
([('Age', '<16.13336;32.10002)')], [('Pclass', '2.0', '1.0')], [('Survived', '0.0', '1.0')])
([('Age', '<16.13336;32.10002)')], [('Fare', 'avg', 'very high')], [('Survived', '0.0', '1.0')])
([('Age', '<16.13336;32.10002)')], [('Fare', 'very low', 'very high')], [('Survived', '0.0', '1.0')])
([('Age', '<16.13336;32.10002)')], [('Fare', 'lower', 'very high')], [('Survived', '0.0', '1.0')])
([('Age', '<32.10002;48.06668)')], [('Pclass', 'nan', '1.0')], [('Survived', '0.0', '1.0')])
([('Age', '<32.10002;48.06668)')], [('Fare', 'nan', 'very high')], [('Survived', '0.0', '1.0')])
([('Age', '<32.10002;48.06668)')], [('Pclass', '3.0', '1.0')], [('Survived', '0.0', '1.0')])
```

The Python app returns 13 results, (6 of them contain nan).

Conf: 55%, Supp: 3%





LispMiner returns 12 results.

```
desired_state = DesiredState(desired_classes = ["1.0"])
decisions = Decisions()
decisions.read_csv("data/titanic.csv", sep="\t" ,lineterminator='\r')
antecedents = ["Age", "Embarked", "Fare", "Pclass"]
consequent = "Survived"
decisions.prepare_data_fim(antecedents, consequent)
decisions.fit_fim_apriori(conf=55, support=3)
decisions.generate_decision_table()
```

The Python app returns 28 results, (16 of them contain nan).

```
for arule in arules.action_rules_list:
    print(arule)
```

```
([('Age', '<16.13336;32.10002')], [('Pclass', 'nan', '1.0')], [('Survived', '0.0', '1.0')])
([('Age', '<16.13336;32.10002')], [('Embarked', 'S', 'C')], [('Survived', '0.0', '1.0')])
([('Age', '<16.13336;32.10002')], [('Fare', 'nan', 'very high')], [('Survived', '0.0', '1.0')])
([('Age', '<16.13336;32.10002')], [('Fare', 'nan', 'very high'), ('Pclass', 'nan', '1.0')], [('Survived', '0.0', '1.0')])
([('Age', '<16.13336;32.10002')], [('Embarked', 'nan', 'C')], [('Survived', '0.0', '1.0')])
([('Age', '<16.13336;32.10002')], [('Pclass', '3.0', '1.0')], [('Survived', '0.0', '1.0')])
([('Age', '<16.13336;32.10002')], [('Fare', 'nan', 'very high'), ('Pclass', '3.0', '1.0')], [('Survived', '0.0', '1.0')])
([('Age', '<16.13336;32.10002')], [('Pclass', '2.0', '1.0')], [('Survived', '0.0', '1.0')])
([('Age', '<16.13336;32.10002')], [('Fare', 'avg', 'very high')], [('Survived', '0.0', '1.0')])
([('Age', '<16.13336;32.10002')], [('Fare', 'avg', 'very high'), ('Pclass', 'nan', '1.0')], [('Survived', '0.0', '1.0')])
([('Age', '<16.13336;32.10002')], [('Fare', 'nan', 'very high'), ('Pclass', '2.0', '1.0')], [('Survived', '0.0', '1.0')])
([('Age', '<16.13336;32.10002')], [('Fare', 'avg', 'very high'), ('Pclass', '2.0', '1.0')], [('Survived', '0.0', '1.0')])
([('Age', '<16.13336;32.10002')], [('Fare', 'very low', 'very high')], [('Survived', '0.0', '1.0')])
([('Age', '<16.13336;32.10002')], [('Fare', 'lower', 'very high')], [('Survived', '0.0', '1.0')])
([('Age', '<16.13336;32.10002')], [('Fare', 'very low', 'very high'), ('Pclass', 'nan', '1.0')], [('Survived', '0.0', '1.0')])
([('Age', '<16.13336;32.10002')], [('Fare', 'very low', 'very high'), ('Pclass', '3.0', '1.0')], [('Survived', '0.0', '1.0')])
([('Age', '<16.13336;32.10002')], [('Fare', 'lower', 'very high'), ('Pclass', 'nan', '1.0')], [('Survived', '0.0', '1.0')])
([('Age', '<16.13336;32.10002')], [('Fare', 'lower', 'very high'), ('Pclass', '3.0', '1.0')], [('Survived', '0.0', '1.0')])
([('Age', '<32.10002;48.06668')], [('Pclass', 'nan', '1.0')], [('Survived', '0.0', '1.0')])
([('Age', '<32.10002;48.06668')], [('Fare', 'nan', 'very high')], [('Survived', '0.0', '1.0')])
([('Age', '<32.10002;48.06668')], [('Fare', 'nan', 'very high'), ('Pclass', 'nan', '1.0')], [('Survived', '0.0', '1.0')])
([('Age', '<32.10002;48.06668')], [('Pclass', '3.0', '1.0')], [('Survived', '0.0', '1.0')])
([('Age', '<32.10002;48.06668')], [('Fare', 'nan', 'very high'), ('Pclass', '3.0', '1.0')], [('Survived', '0.0', '1.0')])
([('Age', '<32.10002;48.06668')], [('Pclass', '2.0', '1.0')], [('Survived', '0.0', '1.0')])
([('Age', '<32.10002;48.06668')], [('Fare', 'nan', 'very high'), ('Pclass', '2.0', '1.0')], [('Survived', '0.0', '1.0')])
([('Age', '<32.10002;48.06668')], [('Fare', 'higher', 'very high')], [('Survived', '0.0', '1.0')])
([('Age', '<32.10002;48.06668')], [('Fare', 'higher', 'very high'), ('Pclass', 'nan', '1.0')], [('Survived', '0.0', '1.0')])
([('Age', '<48.06668;64.03334')], [('Pclass', 'nan', '1.0')], [('Survived', '0.0', '1.0')])
```